International Journal of Technology 13(5) 1013-1022 (2022)
Received April 2022 / Revised August 2022 / Accepted August 2022

International Journal of Technology

http://ijtech.eng.ui.ac.id

Creating Engagement Opportunity for Math Learning

Sian Hoon Teoh[1*], Siti Rosiah Mohamed[2], Ainun Hafizah Mohd [2], Nor Syazwani Mohd Rosid[1], Mohammad Mubarrak Mohd Yusof[1]

[1]*Faculty of Education, Universiti Teknologi MARA, Cawangan Selangor, Kampus Puncak Alam 42300, Selangor, Malaysia*
[2]*Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA, Cawangan Pahang, Kampus Jengka 26400, Pahang, Malaysia*

Abstract. Mathematics has traditionally been regarded as an important topic for the fundamental development of skills since it necessitates language and thinking. With these required skills, students with less mathematics experience rely largely on learning opportunities. Providing mathematics learning opportunities for children may encourage them to study. Students are more likely to participate in learning when teachers provide additional support. Previous research has concentrated on both effective teaching and learning as well as student challenges. Despite this, the current challenging circumstances have resulted in fewer options for students to explore. As a result, this research aims to determine how teachers and parents in a rural mathematics community in Malaysia create opportunities for students to participate in mathematics education. Teachers, parents, and students make up the community. A case study was used to obtain qualitative data via interview. This study included four teachers and two parents. Purposive sampling was used to select the samples, with participants agreeing to be involved. The findings revealed that the teachers and parents were equally concerned about their children's education and focused on mentoring them. To help their children, the parents relied on technology. This study provides input on strategies used to engage students in mathematics education.

Keywords: Engagement; Mathematics community; Mathematics education; Mathematics learning opportunity

1. Introduction

Teachers and parents play vital roles in educating children. Despite having the same goal of supporting students in their learning, teachers and parents each have a specific role to play. Collaboration between teachers and parents is always understood as an effort to assist students to become more academically successful (Patton & Hardman, 2019). In modern society, their efforts go beyond just collaboration and also include communication and commitment (Grace & Ariri, 2022). Teachers must also carry out the challenging work of ensuring students' environmental awareness in addition to providing instruction, as this has an effect on students' well-being and, consequently, their academic performance (Hooper & Gaviria, 2021; Magista et al., 2018). As a result, even though parents and teachers play specific roles in children's education, they must collaborate in order to support children both today and in the future (Torres-Rendon & Zinsser, 2022). Hence, the

*Corresponding author's email: teohsian@uitm.edu.my, Tel.: +603-32584926; Fax: +603-32584994
doi: 10.14716/ijtech.v13i5.5858

contributions are viewed as opportunities by learners. It enables them to embark on a challenging path of mastering mathematics.

2. Problem Statement

Students who desire to study mathematics may find it challenging to move forward with their learning due to fewer opportunities for communication with teachers, especially during the COVID-19. Because of the social distance, there is less opportunity for learners to communicate directly with their teachers. The distance has impacted the students' involvement in studying. There is less seriousness in distance learning. They feel that the only way to interact completely is through face-to-face learning. During the pandemic, it was reported that students disliked distance learning because of the absence of social interaction (Al-Mawee et al., 2021). This limitation was also discussed in the prior study. According to Mali and Lim (2021), face-to-face learning creates a learning environment that inspires pupils to engage in their studies. All pupils are given the opportunity to receive assistance from their teachers. Therefore, they would want a more straightforward approach as well as more engaging learning approaches. Teachers should engage students because it gives them the impression that they are receiving opportunities for learning (Cicekci & Sadik, 2019). Regardless of the circumstances, though, the learning process continues. Because social issues are addressed in constructivism from both a school and a parent's perspective, the development of children's mathematics skills is still influenced by their social situations (Jay et al., 2018).

Furthermore, many parents are concerned about their children's good academic results (Purnomo et al., 2021). Nonetheless, it might be challenging for parents to motivate their children to learn a difficult subject. Parents who are not academicians may have to consider other opportunities to keep their children interested. The problem is compounded by the need to learn how to use digital technologies. Because they are not prepared, parents may be unable to use the technical instrument. As a result, as outlined in the latest sharing, new interaction tactics and alternative ways may be required (Kingston, 2021). There are many ways to interact. It is vital in this circumstance to comprehend how parents interact with their children. Apart from that, parents' supports of their children's mathematics abilities and performance was believed to affect their children' desire to learn mathematics (Teoh et al., 2021). This remark may provide parents with ideas on how they may help. The aid is intended to provide opportunities to get more confidence in learning mathematics, preventing students from falling behind in the subject at any moment. As a result, this research aims to understand how teachers and parents in a rural community in Malaysia create opportunities for students to participate in mathematics education.

3. Literature Review

It is difficult to keep children interested in mathematics because many mathematical concepts are complex and linked. However, educators have been paying attention to learners' excitement for learning mathematics to cope with mathematics lessons. Cultivating learners' interest in mathematics is one technique to ensure that they are fully engaged in their studies regularly. Hence, the following literature review highlights the interplay of opportunity and community.

3.1. Learning Opportunity

The phrase 'opportunity for any learning' is always used to describe the circumstances that lead to learning. Teachers or learning communities should focus on the time and content components of a learning opportunity to accomplish this (Elliott & Bartlett, 2016).

Teachers ensure that all learning occurs according to their plans, while parents should spend time discussing learning difficulties with their children.

Opportunity is one of the educational aspects of addressing educational needs (Averill, 2013). Learning opportunities are required everywhere, regardless of whether the learner is an adult or not, it was emphasised. It gives people the opportunity to develop as individuals. Young learners should be given the opportunities to show their interests in receiving any assistance for the learning of mathematics. In this regard, a teacher is always a facilitator or someone who aids in the learning process. To grasp this, it was suggested that learners should be shaped from the outside with constant monitoring (Loeng, 2020; Harper-Young, 2018). As a result, education should place a premium on observing learners' learning phases by any parties, such as parents.

Education involves a process of allowing everyone to reach their maximum potential. As a result, providing help to young learners is crucial; otherwise, they would miss out on developmental opportunities. Parents may be able to assist their children in meeting their basic educational needs. For example, even though there are many areas of mathematics that students find challenging, they must keep a positive mental attitude. On the other hand, parents may greatly affect their children's attention and ensure that they are not worried. However, not all parents can do so. As a result, the learning community provides some strategies for guiding parents who require assistance.

It is stressed that both parents and teachers play a significant role in fostering a pleasant learning environment. Young students may require a higher level of security and control (Gossling, 2019). They are given the proper direction and learning process with a sense of security. At the very least, they are self-assured and believe they have received help when it is needed. They have a greater sense of control and are more driven. Young learners lack the maturity to decide about the next step and how to handle challenges in their education. The fulfillment of needs is critical because basic needs must be addressed before other desires may be met (Maksum, 2021). This meeting of a basic need ensures that everyone has an equal opportunity to study throughout their lives. Most essential, the students are carefully looked after in the classroom. As a result, they are confident in their ability to continue their studies. On the other hand, creating learning opportunities is critical to achieving SDG 4 on education, emphasizing inclusion, equity, and opportunity for lifelong learning (Elfert, 2019).

3.2. Teachers' Roles in Mathematics Community

Teachers are encouraged to create opportunities for students to express their ideas and generate more questions in student-center learning. In addition, their skills and resources are required in many educational settings to aid parents and the community in engaging pupils in mathematics education (Teoh et al., 2021). As a result, teachers play two important roles in math instruction.

To begin with, teachers are leaders responsible for giving leadership in the community to develop knowledge and skills. They have a lot of responsibilities in school, such as engaging students creatively and fostering critical thinking skills (Hamza & Griffith, 2006; Khalid et al., 2020). They must be aware of the intellectual and familial backgrounds of their students.

Furthermore, they must establish a positive relationship with their students. They provide more input to support learners' learning experiences, which creates opportunities. Their life experiences greatly influence how well they do in math (Furner & Worrell, 2017). Second, as experts in their field, instructors may introduce and assist parents with related and beneficial resources. Teachers are subject matter experts who should be considered in any cooperative endeavor to achieve the goal of mathematics education. The goal of

mathematics education is to develop life skills. Mathematical abilities can be developed through formal and informal mathematics activities that engage pupils in problem-solving. On the other hand, the ability to answer math problems is linked to a student's family and educational background. It has been discovered that students' attitudes toward studying are influenced by their interactions with their teachers, peers and families (Chen et al., 2020).

Equipped with the knowledge of students' backgrounds, teachers can successfully engage students in mathematics activities and set up mathematics communities to foster meaningful learning (Yolcu, 2019). Collaborative activities are some good examples that can help students to be better at learning mathematics, as those who are engaged in collaboration tend to perform better than those who do not (Saka, 2021). This is supported by Olanrewaju and Suleiman (2019), who found similar results in their study. With the two major tasks, namely creating opportunities for students learning and guidance for parents, teachers can develop a culture of learning mathematics (Owens, 2015). Creative learning activities can be incorporated into the classroom with input from community members.

3.3. Parents' Roles in Mathematics Community

Parents' contributions to their children's well-being are becoming increasingly significant. Parents become aware of the problem when their children struggle to complete schoolwork while showing signs of anxiety. Furthermore, the current circumstances necessitate learners to learn remotely with less face-to-face interaction, which has elevated anxiety levels (Kumari, 2022). As a result, parents' nurturing of their children emotional growth is vital (Else-Quest et al., 2008).

When going about their daily routines in today's world, everyone is dealing with a diversified environment. These students, overall, need more assistance. Furthermore, their perspectives may differ from those of others. This may increase anxiety in students who are behind in their studies. In this case, the learner's desire helps acquire a sense of security (Ilany, 2022).

It was also discovered that contextual factors that contribute to students' emotions directly impact their mathematics accomplishments, demonstrating that their learning contributes to learning achievement. If their parents are likewise worried, they may show a lack of confidence in their schoolwork (Koch, 2018). Given the intricacy of mathematics, parents' help is critical for their children's development.

Success is usually considered unachievable if no one can assist them and make them dependent. As a result, Williams and Williams (2022) demonstrated that parents who provided opportunities for mathematics discussion increased the quality of their children's engagement. Opportunities are becoming essential as research shows that aiding math learning in various ways, such as providing a pleasant environment, can reduce anxiety levels (Luttenberger, 2022). Both parental involvement and teacher assistance are critical for students' levels of engagement. Hence, maintaining a positive relationship with schools is important to achieving this goal.

4. Methodology

The current study was a case study that investigated how teachers and parents in a Malaysian rural community encourage students to participate in mathematics education. This study presents a portion of the findings of a larger investigation. The larger study aims to investigate how mathematics education develops in a community. One of the focuses is an investigation of teachers' contributions to mathematics education in rural areas (Teoh et al., 2021). Hence, this study adds some input regarding the mathematics community's

role in providing opportunities for the development of math education. The focus samples in this study were teachers and parents in a rural area in Malaysia. The samples were selected purposively among the teachers and parents whose children were studying in the area. Apart from that, the samples were selected with the inclusion criteria of willingness to share their experiences and views on math community matters.

A total of four teachers and two parents were interviewed for the contribution of data. Because the samples were purposefully selected with the respondents' voluntary participation, the number of samples (specifically teachers and parents) was limited to six in this study. Therefore, the study region is isolated, with only a few teachers. Furthermore, the emergence of COVID-19 in February 2020 impacted the data gathering period. The samples became less accessible as a result as the conclusions of this study were based on a small sample size. Some of the interview questions are "How do you influence your children in their learning?" and "To what extent do you find your role in giving them opportunities in their learning?". After the transcription, the data were analyzed using a qualitative approach. In the analysis, T1, T2, T3, and T4 represent the teachers, while P1 and P2 represent the parents.

This study has a limitation in terms of the number of samples. The number of samples involved in the interview was limited to four teachers and two parents. It was due to two factors. First, the data was gathered when the movement control order (MCO) was in effect during the COVID-19 pandemic. In February 2020, right before the MCO, only a small number of samples—teachers—were reached. Second, cell phones were used in the effort to get in touch with participants. Only a small number of respondents agreed to take part in the survey. This study's findings were therefore based on a small sample size.

5. Findings

The findings were reported for the two research questions as below.

5.1. Findings for Research Question One

Research Question One: How do teachers provide opportunities to engage pupils in mathematics education?

The findings from the interview revealed two main themes to address Research Question One. The themes are (1) providing a supportive environment and (2) teacher-parent communication. Table 1 illustrates the summary of the outputs for Research Question One. The responses to a supportive environment emerged as the most concerning strategy in creating engagement opportunity for the learning among the teachers in the community. Other than that, parents also play important roles in assisting the teachers to create opportunities to learn mathematics. Hence, the theme of teacher-parent communication is captured.

Table 1 Themes for the findings of Research Question One

	T1	T2	T3	T4
Supportive environment (meeting individuals' needs, guidance, and concerns	√	√	√	√
Teacher-parent communication		√	√	√

This study found that the teachers grasped any opportunity to contribute to the mathematics community. They looked at opportunities to create a conducive learning environment for students' mathematics. Other than that, the conducive environment before the pandemic relied on classroom interaction and focused on individual learners' learning. Nevertheless, the opportunities become challenges when the teaching and learning must be

conducted online. In this study, teachers were aware of students' needs and built a good rapport, as described by T1, T2, and T4. They showed their care.
T1: "*We are aware that our pupils need help...*"
T2: *"... since we have built our relationship, the pupils can get along with the teachers.*"
T4: "*The school collaborate with counselling teachers to share the role of parents in helping students learn at home. There are also teachers providing learning modules…"*

Teachers, on the other hand, used the opportunity to challenge the students by assigning difficult tasks. T3 described her effort as below.

T3: "*Many are not well exposed. They need teachers' guidance. For example, I asked them to make a model system planet."*

Having a positive mindset has encouraged students to participate in the endeavor. Teachers who were aware of the issue of the learning environment tried to get students' attention by providing feedback and hints. The information has been examined. Overall, the data show that the teachers put a lot of effort in providing the supportive environment. Besides, they were also assisting the students by having good communication with parents, as described by T3 and T4.
T3: "…*We communicate with the parents through WhatsApp, but not all parents are cooperative.*"
T4: "…*when parents have questions, they will send personal messages to the teacher, to get to know the teacher, to ask questions, like that. So, parents' involvement is relatively okay*…"
The above findings show that the mathematics community contributes to creating a positive learning environment by providing feedback, guidance, and parental involvement.

5.2. Findings for Research Question Two

Research Question Two: How do parents provide opportunities to engage pupils in mathematics education?

The findings from the interview revealed three main themes to address Research Question Two. The themes are (1) monitoring, (2) provide technological tools and supports, and (3) teacher-parent relationship. Table 2 illustrates the summary of the outputs for Research Question Two.

Table 2 Themes for the findings of research question two

	P1	P2
Monitoring	√	√
Provide technological tools and supports	√	√
Teacher-parent relationship	√	√

The parents help their children in a variety of ways. Note that P1 and P2 have shared more effort in assisting their children. For example, P2 mentioned that she was involved in her children's homework supervision. P1 also claimed that his wife went out of her way to find more information for his children. For their assistance, technology has been employed to keep their kids interested. The following is how the inputs are characterized.
P2*: "Need to always monitor the children and do homework together. And do a lot of exercises."*
P1*: "My wife is very helpful in teaching Mathematics at home. If my wife does not understand, my wife will refer to the internet and teachers."*

They were also willing to put effort into preparing technological tools for their children to learn, even though they had some difficulties doing so. P1 also shared that he always supported his children's learning with any required tool. Parents' help with technological tools is expressed by P1 as follows.

P1: "*Learning is conducted online. Parents need to top up the internet every week. The teacher will send homework to the students via WhatsApp… I will spend RM20 per week so the learning process can run smoothly. I'm willing to sacrifice for learning."*

They were committed to preparing for their children's learning. In addition, they have a good relationship with teachers, as described by P1. They were cooperative since they were willing to involve themselves in mathematics education. P1 expressed that he also helped to deliver learning materials to his children.

P1*: "We have a good relationship. We even have Group WhatsApp… parents have to pick up books at school or teachers send them home…"*

The cooperation between teachers and parents also came from the parents' effort in their communication. For example, P2 shared that she sought help from a teacher about her children's work.

P2*: "If I don't understand, I'll ask the teacher. Besides, the teacher will screenshot the question, and I can refer to it in the textbook."*

6. Discussion and Conclusion

According to the conclusions of this study, mathematics teachers should provide extra opportunities in the mathematics community. Creating a supportive environment, offering aid, and assisting parents in assisting their children are all possibilities for the study. The opportunities were shown to be beneficial in engaging pupils in mathematics instruction both directly and indirectly (Yeh et al., 2019), who investigated the impact of games on mathematics education, described mathematics as a difficult topic that demands a favorable learning environment. As a result, proving clues and receiving feedback are the two most important variables in mathematical achievement. Also, aiding parents in making more compelling remarks is highly recommended.

On the other hand, providing opportunities for learning mathematics through "math talk" and questioning are examples (Murata et al., 2017). Teachers' efforts to offer opportunities have been identified as a crucial factor in students' participation in math classes (Kronenberg et al., 2010; Teoh et al., 2021). Starting specific activities and putting student learning concerns into practice, such as learning from mathematics examples, are two alternatives (Litster, 2020). The idea was for students to be able to take an active role in their education. Teachers, for example, engage pupils in activities that require them to duplicate mathematical ideas to improve their mathematical knowledge. On the other hand, teachers' concerns may not be realized in practice if parents do not assist.

Ultimately, teachers may consider their efforts responsive to assisting children's thinking, but parents' involvement in mentoring learners may be required. In this study, parents are strong teaching and learning process advocates. They acted as instructors' helpers, ensuring their children participated in the learning process. As a result, parents should always consult instructors when it comes to supporting children's mathematics learning in the community. Both parties work collaboratively to meet the learning needs of individuals. This is especially important since, in today's learning environment, a learning community should be established, especially in the case of online and hybrid learning (Garrison, 2019). Additionally, educators are now relying on the digitization of education (Godin & Terekhova, 2021; Koroleva & Kuratova, 2020).

This study recommends that teachers as leaders be encouraged to promote classroom practices among themselves in the school community. Besides, new opportunities for parents to participate are critical. Finally, the role of parents is to provide and receive feedback on their children's learning.

Authors' Contributions

For the completion of this research endeavor, the authors have collaborated.

Acknowledgements

This study is part of a larger study, and the authors gratefully acknowledge the funding by the *Geran Penyelidikan LESTARI SDG Triangle 2019* (Project Number: 158/2019) from Universiti Teknologi MARA (UiTM) Malaysia. Acknowledgment also goes to the Faculty of Education, UiTM.

References

Al-Mawee, W., Kwayu K.M., Gharaibeh T., 2021. Student's Perspective on Distance Learning during COVID-19 Pandemic: A Case Study of Western Michigan University, United States. *International Journal of Educational Research Open*, Volume 2, p. 100080

Averill, R., 2013. Enjoying Maximising Opportunities for Learning Mathematics. *Southeast Asian Mathematics Education Journal*, Volume 3(1), pp. 27–38

Chen, J., Jiang, H., Justice, L.M., Lin, T.J., Purtell K.M., Ansari A., 2020. Influences of Teacher–Child Relationships and Classroom Social Management on Child-Perceived Peer Social Experiences During Early School Years. *Frontiers in psychology*, Volume 11, p. 586991

Cicekci, M.A., Sadik F., 2019. Teachers' and Students' Opinions About Students' Attention Problems During the Lesson. *Journal of Education and Learning*, Volume 8(6), pp. 15

Elfert, M., 2019. Lifelong Learning in Sustainable Development Goal 4: What Does It Mean for UNESCO's Rights-Based Approach to Adult Learning and Education? *International Review of Education*, Volume 65(4), pp. 537–556

Elliott, S.N., Bartlett, B.J., 2016. Opportunity to Learn. *Oxford Handbook Topics in Psychology*, pp. 1–14

Else-Quest, N.M., Hyde, J.S., Hejmadi, A., 2008. Mother and Child Emotions during Mathematics Homework. *Mathematical Thinking and Learning*, Volume 10(1), pp. 5–35

Furner, J., Worrell, N., 2017. The Importance of Using Manipulatives in Teaching Math Today. *Transformations,* Volume 3(1), p. 2

Garrison, D.R., 2019. Online Community of Inquiry Review: Social, Cognitive, and Teaching Presence Issues. *Journal of Asynchronous Learning Networks*, Volume 11(1), pp. 61–72

Godin, V.V., Terekhova, A., 2021. Digitalization of Education: Models and Methods. *International Journal of Technology*, Volume 12(7), pp. 1518–1528

Gossling, N., 2019. Impacting Student Learning Outcomes by Addressing Basic Impacting Student Learning Outcomes by Addressing Basic Needs of Students and Their Families, pp. 1–45

Grace, K., Ariri, J.O., 2022. Preschool Parents' Ratings of Parent-teacher Relationships. A look at the Impact of Family Demographics. *Asia-Pacific Journal of Research in Early Childhood Education*, Volume 16(2), pp. 247–273

Hamza, M., Griffith, K., 2006. Fostering Problem-Solving and Creative Thinking in The Classroom: Cultivating a Creative Mind. *In National Forum of Applied Educational Research Journal-Electronic*, Volume 9(3), pp. 1–32

Harper-Young, K., 2018. The Impact of Progress Monitoring Structures on Student Achievement. e Educational Leadership Commons. *Dissertations.* Volume 301, pp. 1–47

Hooper, A., Gaviria-Loaiza, J., 2021. Head Start Teachers' Views on the Family-Teacher Relationship: A Research-to-Practice Summary. *HS Dialog: The Research to Practice Journal for the Early Childhood Field*, Volume 24(1), pp 62–66

Ilany, B.S., 2022. Why I Chose to Become a Mathematics Teacher? *Creative Education*, Volume 13(1), pp. 183–202

Jay, T., Rose, J., Simmons, B., 2018. Why Is Parental Involvement in Children's Mathematics Learning Hard? Parental Perspectives on Their Role Supporting Children's Learning. *SAGE Open*, Volume 8(2), pp. 1–13

Khalid, M., Saad, S., Hamid, A.S.R., Abdullah, R.M., Ibrahim, H., Shahrill, M.,2020. Enhancing Creativity and Problem Solving Skills Through Creative Problem Solving in Teaching Mathematics. *Creativity Studies*, Volume 13(2), pp. 270–291

Kingston, S., 2021. Parent Involvement in Education? A Foucauldian Discourse Analysis of School Newsletters. *Power and Education*, Volume 13(2), pp. 58–72

Koch, I., 2018. Maths Anxiety: Students, Pre- and In-Service Teachers. *Australian Mathematical Sciences Institute*, Volume 2018, pp.1–30

Koroleva, E., Kuratova, A., 2020. Higher Education and Digitalization of the Economy: The Case of Russian Regions. *International Journal of Technology*, Volume 11(6), pp. 1181–1190

Kronenberg, J., Strahan, D.B., 2010. Responsive Teaching: A Framework for Inviting Success with Students Who Fly below the Radar' in Middle School Classrooms. *Journal of Invitational Theory and Practice*, Volume 16, pp. 78–88

Kumari, P.D., 2022. Challenges of Virtual Learning Environment in Mathematics in the Context of Nepal. *International Journal of Multidisciplinary Perspectives in Higher Education*, Volume 7(1), pp. 114–128

Litster, K., MacDonald, B., Shumway, J. F., 2020. Experiencing Active Mathematics Learning: Meeting the Expectations for Teaching and Learning in Mathematics Classrooms. *The Mathematics Enthusiast*, Volume 17(2), pp. 615-640

Loeng, S., 2020. Self-directed Learning: A Core Concept in Adult Education. *Education Research International*. Volume 2020, pp. 1–12

Luttenberger, K., Karg-Hefner, N., Berking, M., Kind, L., Weiss, M., Kornhuber, J., Dorscht, L., 2022. Bouldering Psychotherapy Is Not Inferior to Cognitive Behavioural Therapy in The Group Treatment of Depression: A Randomised Controlled Trial. *British Journal of Clinical Psychology*, Volume 61(2), pp. 465–493

Magista, M., Dorra, B.L., Pean, T.Y., 2018. A Review of the Applicability of Gamification and Game-Based Learning to Improve Household-Level Waste Management Practices among Schoolchildren. *International Journal of Technology*, Volume 9(7), pp. 1439–1449

Maksum, I., 2021. Integration of Needs into a Qur'an Perspective Using Maslow and Herzberg's Motivation Theory. *Saudi Journal of Humanities and Social Science*, Volume 6(9), pp. 354-362

Mali, D., Lim, H., 2021. How Do Students Perceive Face-To-Face/Blended Learning as A Result of The Covid-19 Pandemic? *The International Journal of Management Education*, Volume 19(3), p. 100552

Murata, A., Siker, J., Kang, B., Baldinger, E.M., Kim, H.J., Scott, M., Lanouette, K., 2017. Math Talk and Student Strategy Trajectories: The Case of Two First Grade Classrooms. *Cognition and Instruction*, Volume 35(4), pp. 290–316

Olanrewaju, M.K., Suleiman, Y., 2019. Effects of Collaborative Learning Technique and Mathematics Anxiety on Mathematics Learning Achievement Among Secondary School Students in Gombe State, Nigeria. *Asian Journal of University Education (AJUE)*, Volume 15(1), pp. 44–58

Owens, K., 2015. Changing the Teaching of Mathematics for Improved Indigenous Education in a Rural Australian City. *Journal of Mathematics Teacher Education*, Volume 18(1), pp. 53–78

Patton,S., Hardman, F., 2019. Parents' and Teachers' Perceptions of Parental Involvement. *Walden University,* pp.1–147

Purnomo, Y.W., Safitri E., Rohmah N., Rahmawati R.D., Abbas N.,2021. Parental Involvement in Online Mathematics Learning: Examining Student Report and Links with Engagement. *The New Educational Review*, Volume 66, pp. 120–130

Saka, A.O., 2021. Can Teacher Collaboration Improve Students' Academic Achievement in Junior Secondary Mathematics?. *Asian Journal of University Education (AJUE)*, Volume 17(1), pp. 33–46

Teoh, S.H., Yusof, B.M.M.M., Rasid, N.S.M., Mohamed, S.R., Mohd, A.H., 2021. Mathematics Learning Community: A Case Study. *Asian Journal of University Education (AJUE)*, Volume 7(2), pp. 252–261

Torres-Rendón, L., Zinsser, K.M., 2022. Predictors of Parent-Teacher Relationship Quality in Head Start Classrooms. *HS Dialog: The Research to Practice Journal for the Early Childhood Field*, Volume 25(1), pp. 1–48

Williams, H., Williams, K., 2022. Parental Contributions and Assessment for Learning as A Component of Mathematics Homework. *Education 3-13*, Volume 50(2), pp. 211–224

Yeh, C.Y.C., Cheng, H.N.H., Chen, Z.H., Liao, C.C.Y., Chan, T.W., 2019. Enhancing Achievement and Interest in Mathematics Learning Through Math-Island. *Research and Practice in Technology Enhanced Learning*, Volume 14(1), pp. 1–19

Yolcu, A., 2019. Research on Equitable Mathematics Teaching Practices: Insights into Its Divergences and Convergences. *Review of Education*, Volume. 7(3), pp. 701–730